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Table of Contents

The Director's Letter. 3
What's Ahead for 1961? 5
The Cycle Round-Up Gives Some Hints
Stock Market Cycle Outlook 5
Manufacturing Production Trend Is Firm . . . 8
Leading Indicator Cycles in 1961 8
Number of New Incorporations Holds Steady 9
Cycles in Hours Worked Up in 1961 9
The Index of Sensitive Prices is Down . .10
Cycles in New Orders Move Sideways. . . .10
Nonresidential Construction is Firm . . .11
Cycles in Liabilities Go Up in 1961 . . .11
No Increase in Residential Construction .12
Steel Production Matches 6-Year Cycle Peak .13
Aluminum Production Outlook Good 14
Cotton Consumption May Decline 15
Shoe Production Appears Steady 16

Commodities Prices in 1961

Soybeans. 17
Wheat 18
Cocoa 18
Oats. 19
Corn. 19
Time and Time Again. 20
The Geisinger Indicator. 21

Cycles are only *one* of the forces you must consider if you are attempting economic forecasting.

If you ignore the cycles you run the risk of serious errors.

But unless you study and weigh all the *other* forces that, in addition to cycles, combine to create economic change, you will make grave mistakes.

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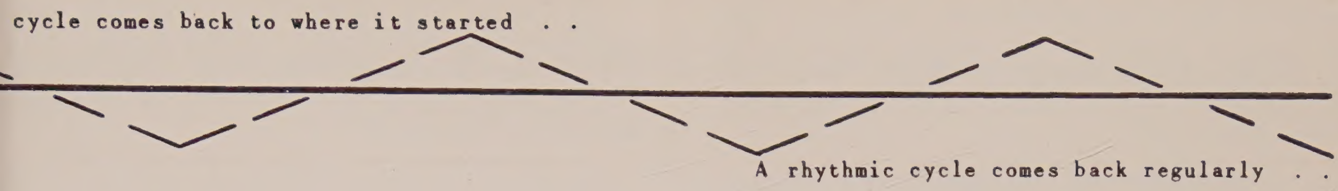

cycle comes back to where it started . .
A rhythmic cycle comes back regularly . .

THE DIRECTOR'S LETTER

Dear Member

Twenty years ago, ten years ago, yes, probably as late as five years ago, I thought of cycles as the result of perfectly regular forces present in our environment.

In other words, I thought of any series of figures such as stock prices, the sales of Company G, or the price of eggs, as a combination of (1) trend, (2) one or more perfectly regular cycles, and some (3) non-cyclic randoms.

Cycle analysis, in my mind, thus consisted of (1) removing trend, (2) finding the cycles one after another, and (3) having the randoms as a remainder.

Some five years ago I began to realize that we were probably on the wrong track. I began to realize that earthly cycles were probably not perfectly regular fluctuations distorted by other cycles and randoms, but that they were probably inherently irregular themselves—that they were probably much more like sunspots. As you doubtless know, sunspots are definitely and incontrovertably rhythmic, yet the peaks are anywhere from eight to 16 years apart. They *average* about 11 years apart, but any single wave is likely to differ markedly from the average.

The proper model for cycles is probably more like that suggested by sunspot behavior or by old "farmer" Benner who called the pig iron price cycle "an 8-, 9-, 10-year top and 7-, 9-, 11-year bottom cycle" instead of "an average 9-year cycle." $(8 + 9 + 10 \div 3 = 9,$ $11 + 9 + 7 \div 3 = 9)$

It follows from the above that if the cycle is inherently irregular we should take this fact into our account in our analysis.

Of course, if we do not know the laws governing the irregularity, the best we can do, often, is to say "on the average, the cycle is 9-years long," or whatever.

This is all very well when we are dealing with one cycle. But when we adjust, on a perfectly regular basis, for a cycle that is inherently irregular, we introduce distortions into the series of figures. When we then attempt to find the second cycle our difficulties are increased. In fact we may think that some of the distortions themselves are the result of the second cycles. This may throw us off completely as to the length and strength of cycle number two. If we surmount this difficulty we are presented with it all over again in aggrevated form when we come to the third cycle—and so on progressively.

By the time we have isolated five or six or ten cycles we may very well have reached a point of mere description. That is to say we may be merely "having fun with figures."

That is why I am glad to share with the anonymous author of the impressive analysis of cycles in copper shares, which we published last month, his misgivings about the use of the projection for forecasting purposes. The closeness with which the synthesis agrees with actual prices and the fact that his projection has worked for nearly a year is amazing, but it should not convince us that the rest of the forecast will also work.

Conversely, if his forecast does not continue to work, we should not dam either him or cycles. We are in an exploratory period. In the first instance we need all the hints we can get. Time enough later to separate wheat from chaff.

My Combination of Stock Cycles

The same criticism is, of course, to be leveled against my combination of 11 stock price cycles. And I am the last one to say that that forecast should be followed blindly. But there are certain reasons for having confidence in it as a forecasting tool:

First of all, even as far back as 1944, I was conscious of this difficulty, and tried to overcome it by looking for each cycle in the original figure before any other cycle was taken out, as well as afterwards.

Second, in the original work I considered 1925—1934 or thereabout such an abnormal period that I ignored all these years in making my cycle determination. Yet, when all the cycles had been derived from the *other* figures and put together, the combined cycles peaked in 1929 and troughed in 1932, just the way stocks had actually behaved.

Third, the rather remarkable way in which it came true for 10 years after it was first published suggests more than accident.

Fourth, the fact that it has consistently forecast, both originally and in all its subsequent revisions, the decline we have been experiencing for the past year, is significant.

The forecast is not perfect, nor was it even proclaimed to be. But in spite of its shortcomings and limitations, I believe it has utility.

Irregular Cycles

If cycles are inherently irregular what could cause them? Well, certainly not perfectly regular energy waves from outer space, unless these waves were modified in some way before they reach us.

Sunspots? Perhaps. Sunspot cycles, both long and short, are irregular enough to satisfy anyone. However, if the variations from perfect timing are due to the gaseous volatility of the sun there would not seem to be any more hope of learning the laws that govern the behavior than there is of learning the laws that cause a periodic geyser to erupt early or late.

The planets? They are certainly irregular. They revolve in elipses instead of circles; they sometimes go fast, sometimes slow; and sometimes—at least from the earthly point of view—they actually go backwards! However, as far as I know, no one has been able convincingly to connect planetary movements with the various cycles that have been discovered here on earth.

If there is a planet-earth cycle relationship, it is probably not a simple one, as, if so, it would have been hit upon by people whose hobby it is to study these movements, and to try to relate them to earthly events.

All of this leaves the question open. It's our job, with your help, to close it!

Cordially yours,

Edward R. Dewey

Director

what's ahead for 1961?

the January CYCLE ROUND-UP gives some hints

This month's report is all "Round-Up." It covers as many subjects as space permits, with special emphasis on what the cycle indications are for 1961. Judgment in each case should be tempered by how well the individual cycles (or combinations of cycles) have been doing in the recent past.

Although our interest is in the performance of the cycles, and not in forecasting, this report attempts to start you on the road to a practical application of cycle knowledge, so that you can include cycles with all the other factors when you make up your mind about what's ahead for 1961.

STOCK MARKET CYCLE OUTLOOK ... NOT GOOD

The combination of the 11 long cycles we have isolated in Standard & Poor's Combined Index is currently going down. It reaches a low in the middle of 1961.

On the chart below these 11 cycles (the shortest of which is 4.93-years) have been combined with a short-term trend. The figures have been changed from yearly to quarterly. The cycle and short-term trend combination is shown by means of a broken line.

The quarterly average of the published Standard & Poor's Combined Index is shown by the solid line.

Until now we have always shown this work using the *long*-term underlying growth trend.

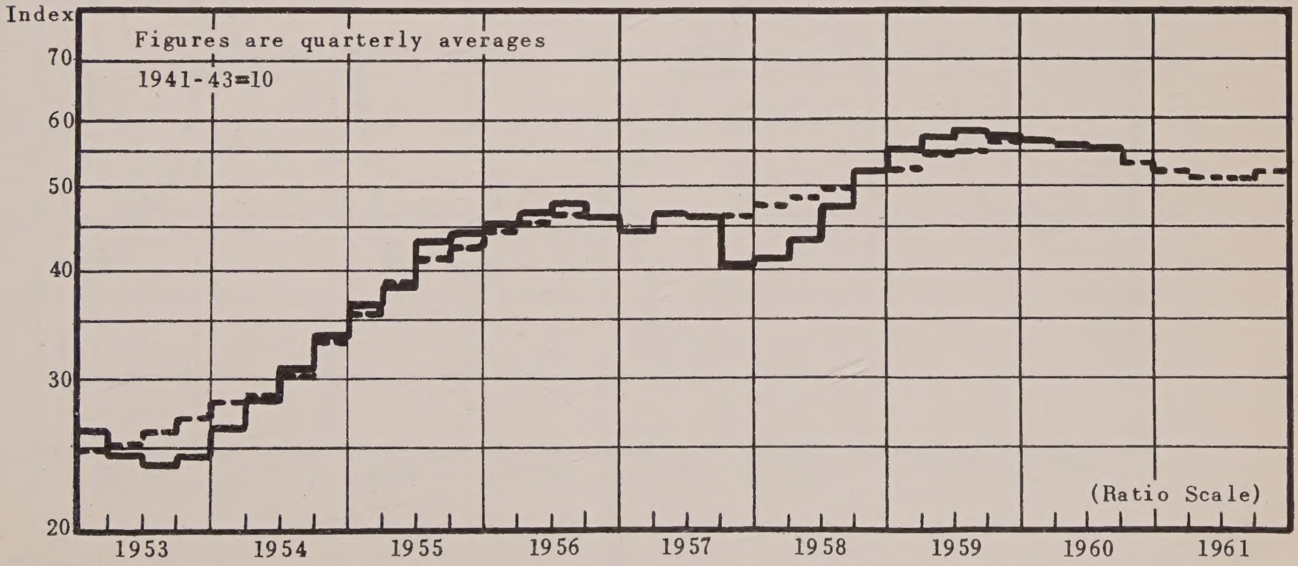


FIG. 1: STANDARD & POOR'S COMBINED INDEX VS COMBINED CYCLES AND TREND

The *long* trend is a slowly and steadily changing value which does not account for the tremendous inflation of stock prices in recent years. By switching to a more volatile short trend the picture can be made more realistic. The short trend really "smears" together all the factors not accounted for by the 11 cycles so far isolated.

However, it is not possible to project this short trend by any means but guesswork. Therefore we have extended it at its current level. As any spread develops between the two lines, the short trend will have to be revised.

Leaving aside any question of trend (that is, calling trend level at 100%), and considering just the combined 11 cycles, we should mention that they have been running *below trend since the second quarter of 1959.* The quarterly averages for 1960 and 1961 follow.

Quarterly Averages of 11 Cycles
Per Cent of Trend
With Trend Level at 100%

1960 -	1st Quarter	83.6
	2nd Quarter	79.3
	3rd Quarter	76.4
	4th Quarter	73.8
1961 -	1st Quarter	72.4
	2nd Quarter	70.6
	3rd Quarter	70.6
	4th Quarter	71.9

The main point here is that in 1961 no upward force will be exerted by the combined 11 cycles.

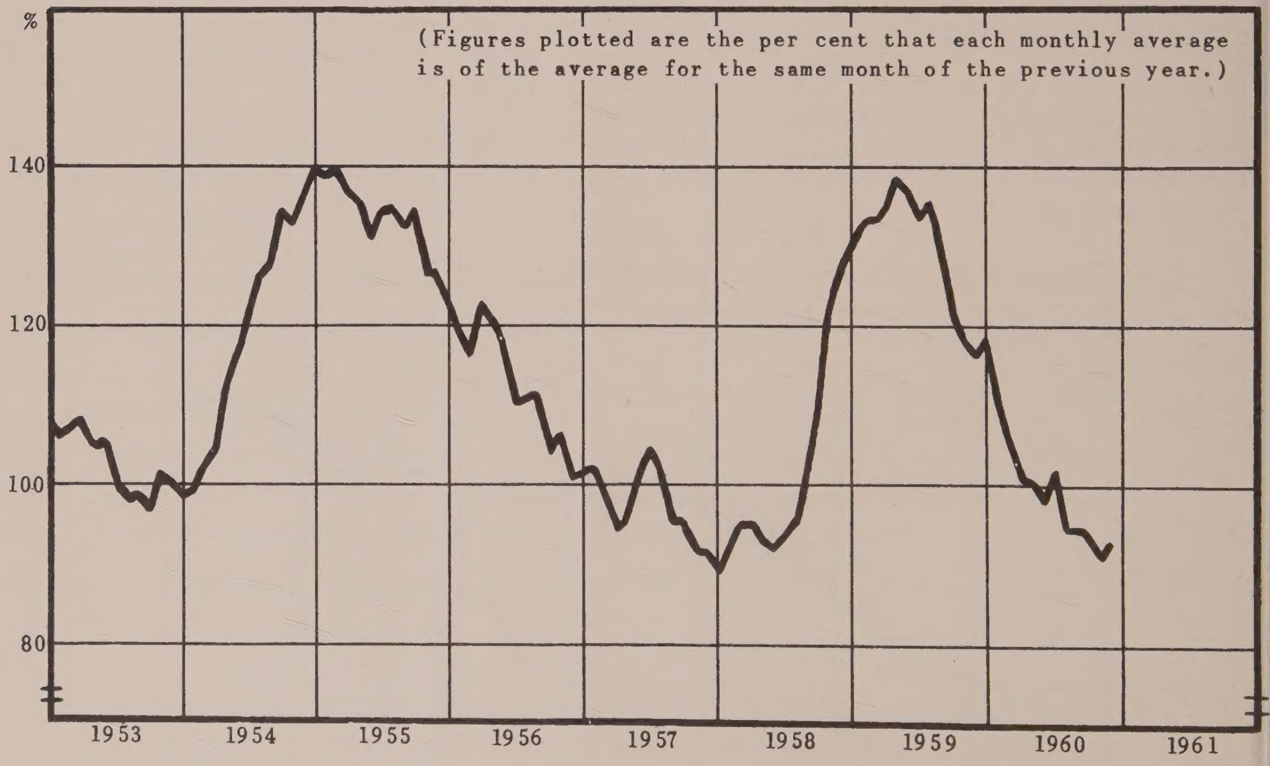
However, it should also be remembered that because none of the 11 cycles is shorter than 4.93-years, one cannot expect to pinpoint the actual tops and bottoms in the market.

Figure 1 does answer the question: is the main force of the long cycles up, down, or sideways? At the moment that force is down.

* * *

One of the major cyclic forces in the price of stocks is the well-known but questionable "40-month" cycle. We have been doing considerable work in this area but so far have not unraveled the mystery of this cycle complex.

In the meantime we can use the picture of the background on which the 40-month idea is often traced. See Figure 2 below. The rigid



(Figures plotted are the per cent that each monthly average is of the average for the same month of the previous year.)

FIG. 2: DOW-JONES INDUSTRIALS—ONE YEAR PER CENT CURVE

cycle diagram is left off the chart, and we are considering just the pattern of the figures plotted.

Figure 2 shows the recent past of the one-year per cent curve of stock prices. (A one-year per cent curve shows the percentage that each month is of the same month of the previous year—January 1960 compared to January 1959, February 1960 compared to February 1959, etc.) In this case, the figures used were Dow-Jones Industrial Averages.

Here again, a look at the curve does not raise much hope for 1961—at least for the early part of the year. The curve is developing a bottom, but the extent and duration of that bottom can only be gauged by previous bottoms. This curve seldom dips below 80%, and has not done so since the 1938 bottom.

The 1957 low just cut the 90% line. The 1953 low went down only to 96% of the previous year's values. Odds are against the curve going below 80%

Also, in the past, only the most unusual circumstances (war, 1932, etc.) have kept the curve below 100% for as long as two years.

Last January the Dow-Jones Industrials averaged 655.39 over the whole month. It would take a value higher than that to raise the line above 100%. This would be unusual. The February 1960 average was 624.88, about 4% above current levels. Last year's figures do not help the outlook for an immediate upturn on this curve. The one-year per cent curve is rounding out a bottom at the present time, but the odds are against that bottom going much deeper, or lasting into 1962.

The main point here is that Figure 2 shows a picture of possible weakness particularly during the early part of 1961 that corroborates the conclusion reached from the chart showing the combination of the 11 long cycles.

* * *

The ideal 17 1/6-week cycle in the Dow-Jones Industrial Average had a low at the week of September 18, 1960. Definite weakness did develop about the time of that last low of 1960.

See Figure 3 below. It shows the record of the weekly averages of the daily close of the Dow-Jones Industrials. The weekly average is compared to the average timing of the 17 1/6-week cycle. The arrows on the chart mark the lows of the cycle.

During 1961 the average timing of the cycle places the lows during the weeks of January 14, May 20, and September 16. These dates do *not* represent market lows, but rather they denote lows on this cycle only.

Probably the wisest way to handle this is to look for some weakness at about those times in the individual stocks in which this cycle is present.

Because the performance of this cycle has been fairly good during 1959 and 1960 it is a temptation to place too much reliance on it during 1961. To copy the warning words of a well-known character, "Watch it!"

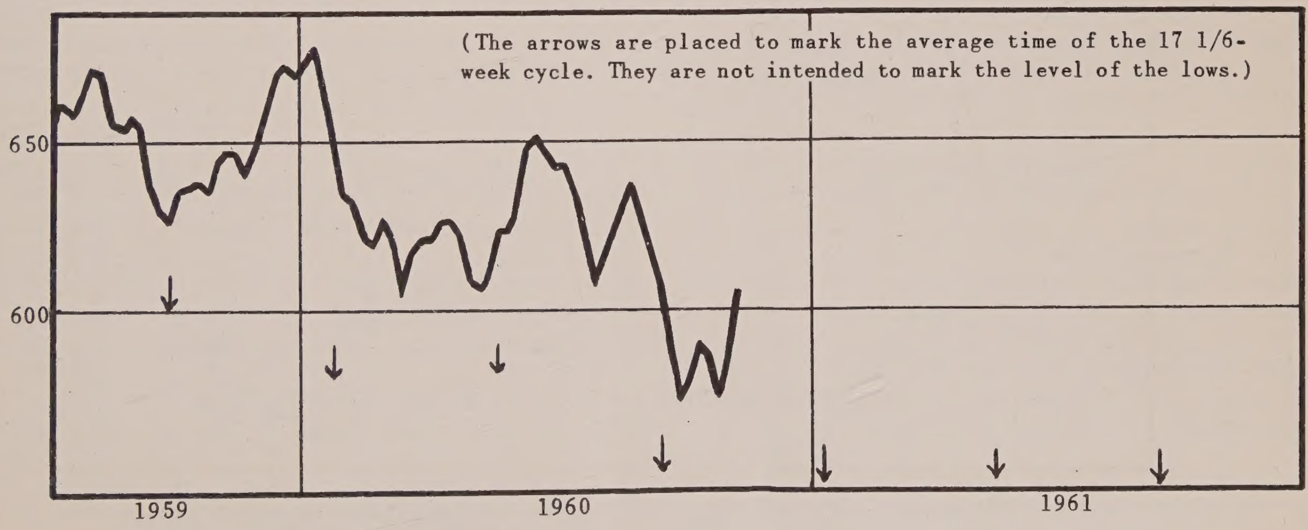


FIG. 3: WEEKLY AVERAGE OF DAILY CLOSE OF DOW-JONES INDUSTRIALS

MANUFACTURING PRODUCTION TREND IS FIRM

The high level of the "basic structure" of manufacturing production gives a little encouragement to the present outlook. The "basic structure" is one line which combines a 36-year cycle, a 50-year cycle, and the long-term growth trend.

The level of this combination line does not change much from 1960 to 1961.

It is this basic underlying framework around which shorter, more violent cycles (and randoms fluctuate. *Assuming that the 50-year cycle, and the 36-year cycle are both valid,* the fluctuations around the combination are thus somewhat limited by the level of that combination.

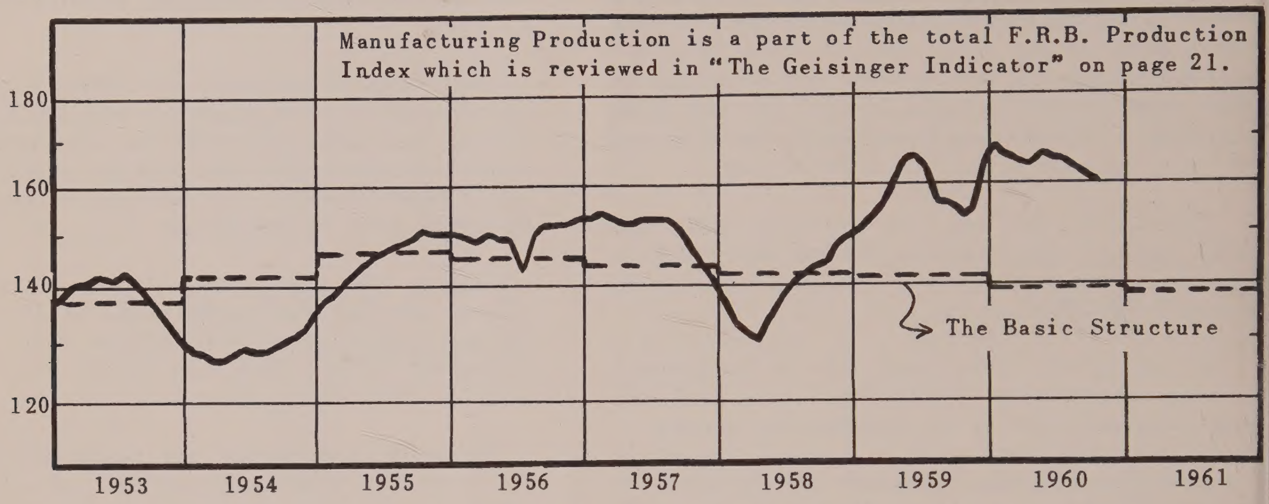

Manufacturing Production is a part of the total F.R.B. Production Index which is reviewed in "The Geisinger Indicator" on page 21.

FIG. 4: THE FEDERAL RESERVE BOARD INDEX OF MANUFACTURING PRODUCTION

"LEADING INDICATOR" CYCLES IN 1961

Over the past year we have reported on some of the cycles which are present in the leading economic indicators. The leading indicators are a group of figures which tend to turn ahead of business in general.

This next section of the "Round-Up" reviews the current situation in each of the indicators which is not covered elsewhere in this month's report.

Leading Indicator	Cycle Analysis	Outlook*	See Pages
Stock Prices	11 Cycles & Short Trend	Poor	5, 6, 7
New Incorporations	1 Cycle	Neutral	9
Hours Worked in Manufacturing	1 Cycle & Long Trend	Good	9
Wholesale Prices of 22 Commodities	(No Cycle Isolated)	Poor	10
New Orders for Durable Goods	2 Cycles & Long Trend	Neutral	10
Non-Residential Building Contracts	1 Cycle	Good	11
Liabilities of Commercial & Industrial Failures	5 Cycles & Long Trend	Poor	11
Residential Building Contracts	2 Cycles & Short Trend	Neutral	12

*N.B. This column expresses an *opinion*—we would hardly be worth our salt if we worked with the figures, isolated the cycles, and watched the cycle performance, without at the same time developing opinions about the future in the light of the cycle indications.

NUMBER OF NEW INCORPORATIONS HOLDS STEADY

The downtrend which started in early 1959 appears to have ended about April 1960, and the figures have leveled off. To find out what these figures are really doing it is necessary to remove the seasonal cycle. The chart shows the number of new incorporations *after adjustment for the seasonal pattern.*

The seasonal pattern which is used follows.

Month	% of Trend	Month	% of Trend
Jan	116.9	Jul	97.3
Feb	96.2	Aug	92.5
Mar	110.4	Sep	90.4
Apr	107.2	Oct	96.6
May	104.5	Nov	85.5
Jun	102.1	Dec	100.9

In August we said that this series had reached a peak, and turned over. This was true, but the downtrend appears to have halted, at least temporarily.

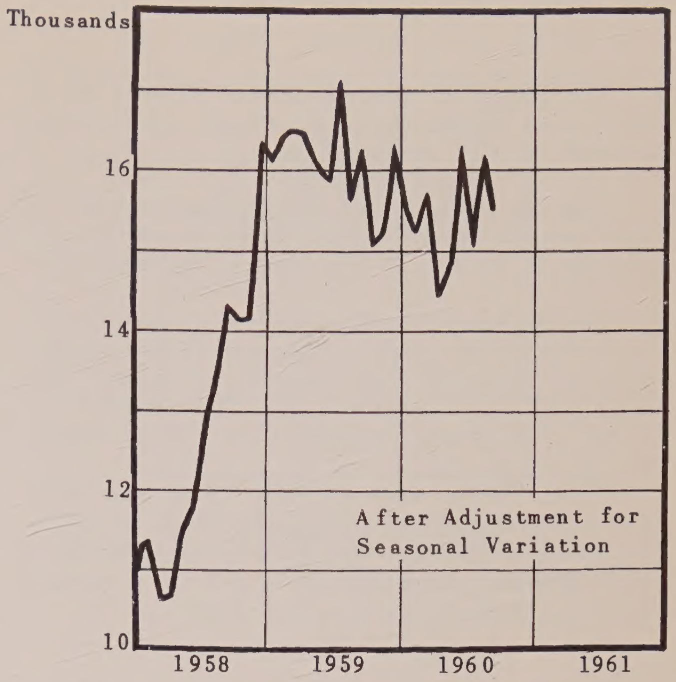


FIG. 5: NEW INCORPORATIONS

CYCLE IN HOURS WORKED UP IN 1961

As explained in an article in *Cycles* for September, 1960, hours worked in manufacturing has been characterized by a 26-month cycle. This cycle has considerable strength and reasonable regularity.

This cycle forecast the recent drop in hours worked. It now suggests improvement through the greater part of 1961. This is a good sign.

Hours worked is a *leading indicator*. This means that it tends to go up and down before business in general.

The fact that there is a regular cycle in these figures tells you to attach more than usual importance to changes in the direction of these figures when they change in the direction in which they should go. For instance, you would have discounted the advance at the end of 1955, because it was going counter to the cycle. But you would have given weight to a similar advance in 1958.

Watch these figures very carefully for the next several months.

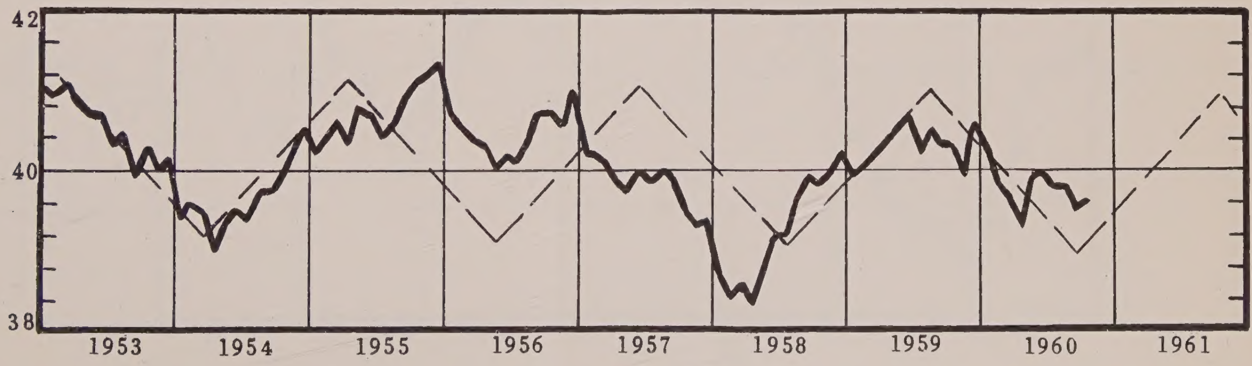


FIG. 6: AVERAGE WEEKLY HOURS WORKED IN ALL MANUFACTURING

THE INDEX OF SENSITIVE PRICES IS DOWN

The Index of the Wholesale Prices of 22 Sensitive Commodities is going down rather sharply at the present time.

Although we have not isolated any cycles in this series we are including it in our review because it is one of the leading indicators.

The figures plotted on the chart are monthly averages of the weekly figures. In the weekly figures the peak came toward the end of 1956 when the Index reached 93.8. During 1957 the Index slid sharply downhill to the 84 level.

Then, during most of 1958, 1959, and 1960, the Index fluctuated within the 84 to 88 range. It appears now that the Index has penetrated the recent lower limit of 84 in a rather decisive manner. Is it a bad sign?

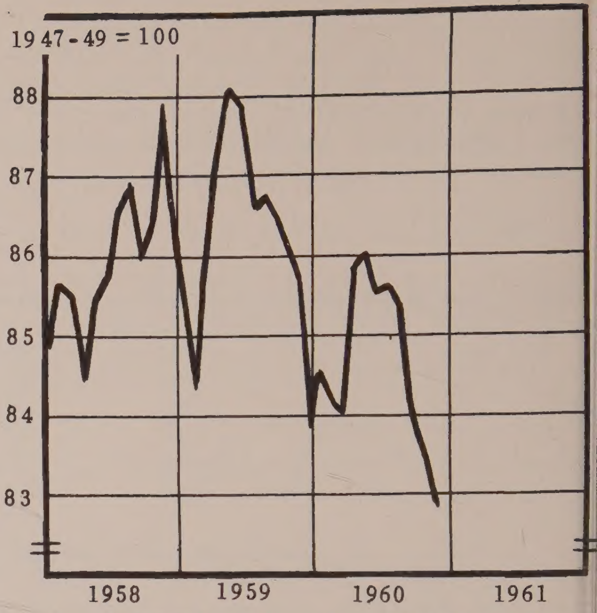


FIG. 7: PRICES OF 22 COMMODITIES

CYCLES IN NEW ORDERS MOVE SIDEWAYS

The line of the combination of the two cycles and trend isolated in Manufacturers New Orders for Durable Goods stays at a high level during the first half of 1961. The line then dips below the 14 billion dollar mark in the last half of the year.

Actual orders are down from the peak at the middle of 1959, but are moving sideways at the present time.

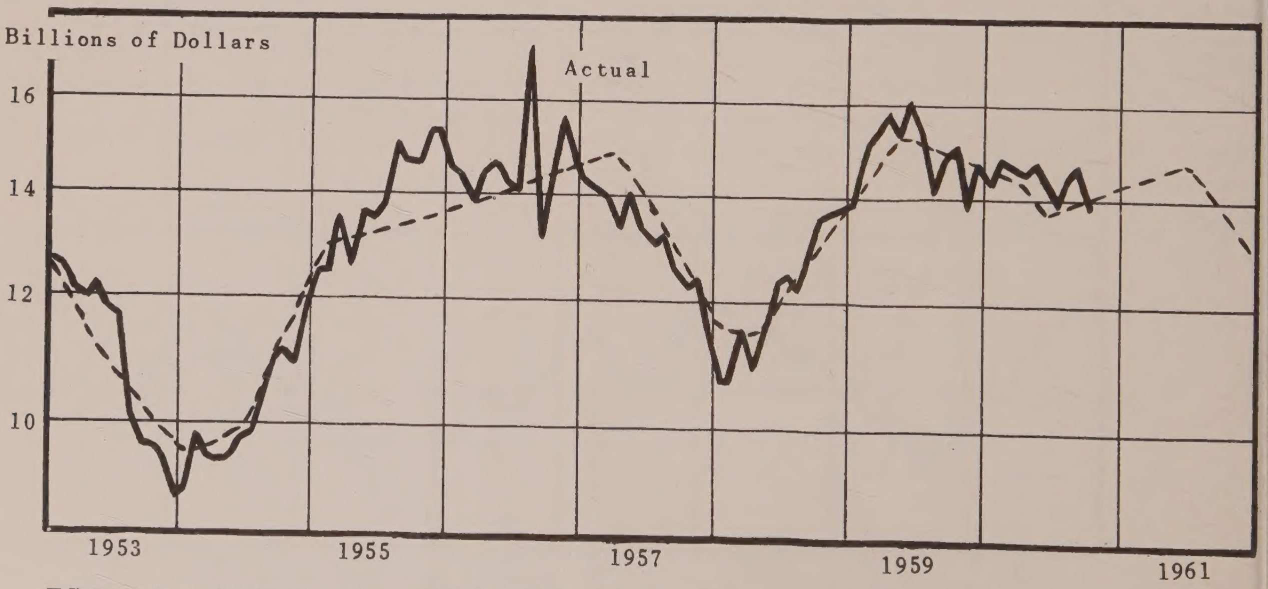


FIG. 8: MANUFACTURERS NEW ORDERS - DURABLE GOODS

NONRESIDENTIAL CONSTRUCTION IS FIRM

Nonresidential building contracts let are another bellwether of general business. The last two months plotted show a reassuring amount of strength in this series, although the peak apparently occurred in 1959.

The chart is a smoothed one-year per cent curve of the actual figures. It eliminates the seasonal cycle in construction and is designed to show what is happening to the figures aside from any seasonal consideration.

So long as the figured stay above what they were a year ago the line on this chart is over 100%, and that is good.

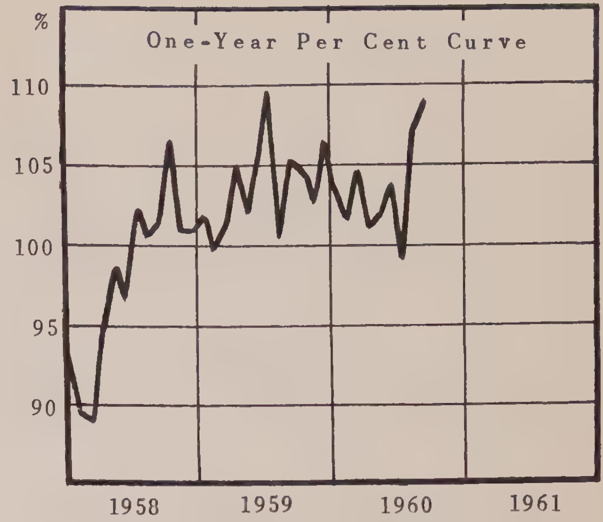


FIG. 9: NONRESIDENTIAL CONSTRUCTION CONTRACTS

CYCLES IN LIABILITIES GO UP IN 1961

Five cycles in the Liabilities of Commercial and Industrial Failures were isolated back in 1953. These cycles and the underlying trend are shown on a yearly basis by the broken line on the chart. Actual monthly liabilities are shown by the solid line.

In 1961 the combination line is up from 1960 to over 100 million dollars a month. Remember that (contrary to most business series) when liabilities go *up*, it is a sign of poor business.

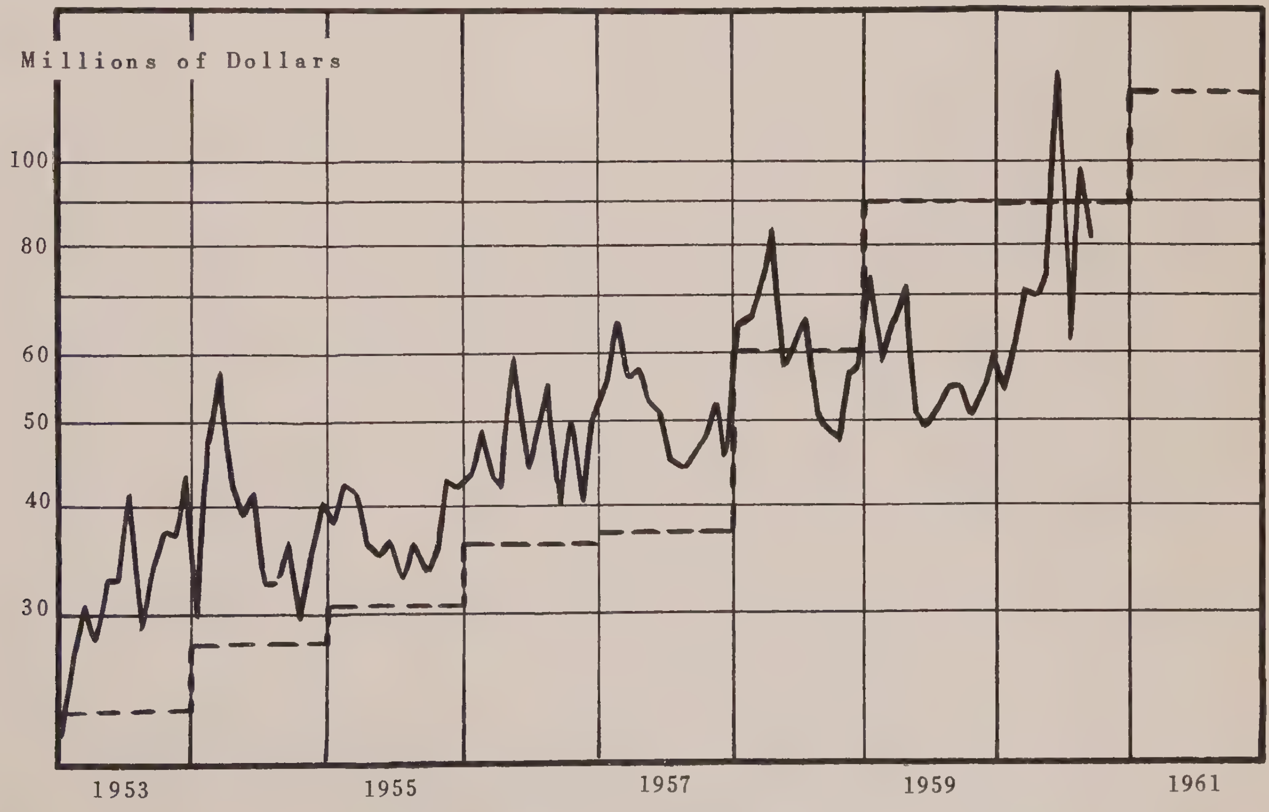


FIG. 10: LIABILITIES OF COMMERCIAL AND INDUSTRIAL FAILURES

NO INCREASE IN RESIDENTIAL CONSTRUCTION

During 1961 the level of Residential Construction Contracts will not be helped any by the dominant 32.3-month cycle that has been present in these figures since January 1925 when the record starts.

The 32.3-month cycle had a high, based on average past experience, at the end of 1960. Theoretically it is now on the way down toward a low due ideally at April 1962.

However, over the past two years the actual data have not been moving with the "ideal" cycle. Until it becomes clearly evident that the data are again "on the track" it is best not to place complete reliance on the cycle.

In 1959 when the cycle was due to have a low, the actual figures soared to new heights. The slump in 1960 from the high figures of 1959 made a low appear in the cycle just when a high should have been developing.

If the cycle gets immediately back into line, then 1961 may be lower than 1960. If this develops, then the figures may indeed reach a low near April 1962, and start up again.

What are the odds for a low developing in in the actual figures around April 1962?

Up until the time of the 1959 low, the cycle had missed only 1 out of 11 lows. With the 1959 miss, the odds were reduced to 2 out of 12 lows that had not been good.

In other words, the odds are now 6 to 1 that the low will come around April 1962.

In a case like this one where two conflicting facts are considered (one, the high odds, and two, the poor current performance) it becomes very important to watch every month for evidence that the data are beginning to again follow the cycle.

In any event, the seasonal cycle will help the picture during the spring and summer months.

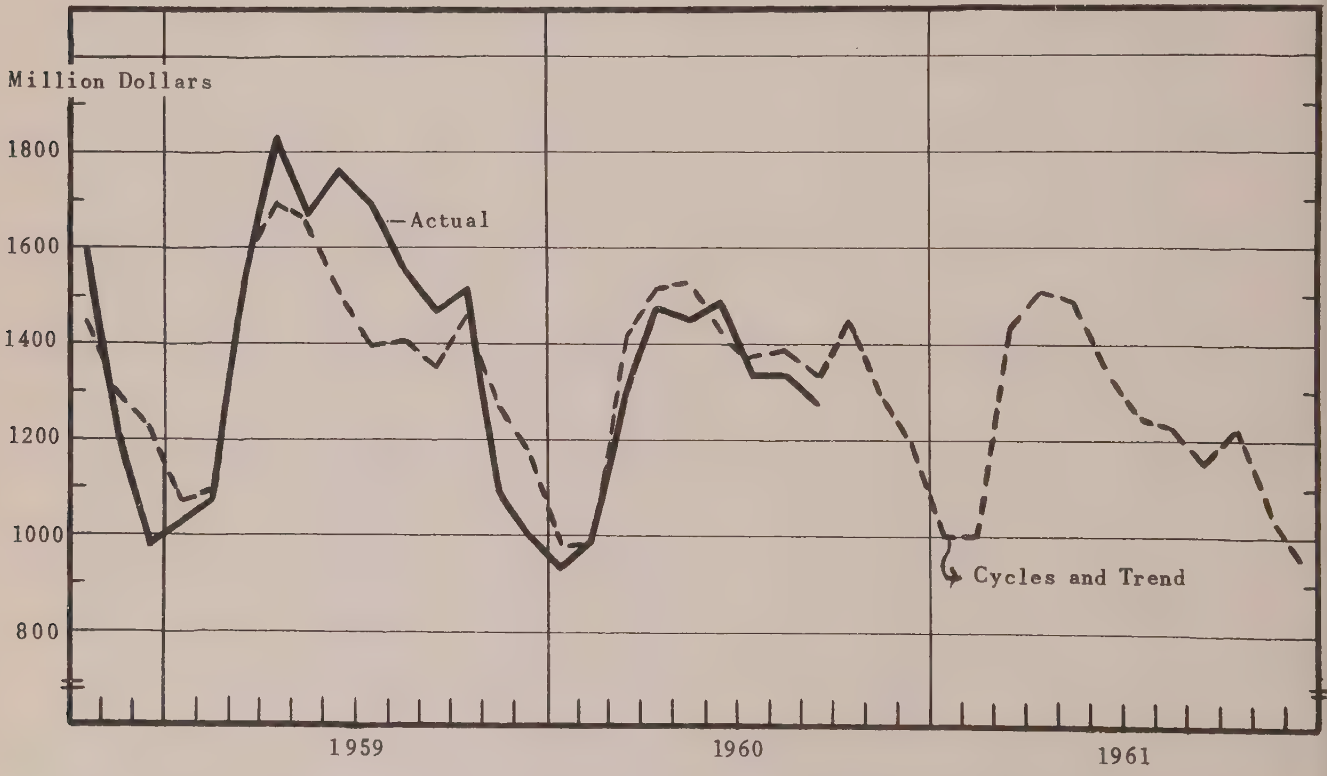


FIG. 11: RESIDENTIAL CONSTRUCTION CONTRACTS

STEEL PRODUCTION MATCHES 6-YEAR CYCLE PEAK

In *Cycles* for June—July 1955 I told you of a 6-year cycle present in steel production irregularly from 1867 to date. At that time I printed for you Figure 12 below.

In July 1959 I told you that this cycle seemed to be off the track. At all events the high due December 1953—January 1954 had come in March of 1953, 9 1/2 months early; and the low due at the start of 1957 did not come until March 1958—15 1/2 months late.

However, the crest that came at the end of 1959 came exactly on time. See Figure 13 below.

Perhaps this is merely accidental. But the record of a 6-year cycle in these figures goes back far enough so that it may not be. I would think that increased credence should be given to the idea of a 6-year cycle in these figures.

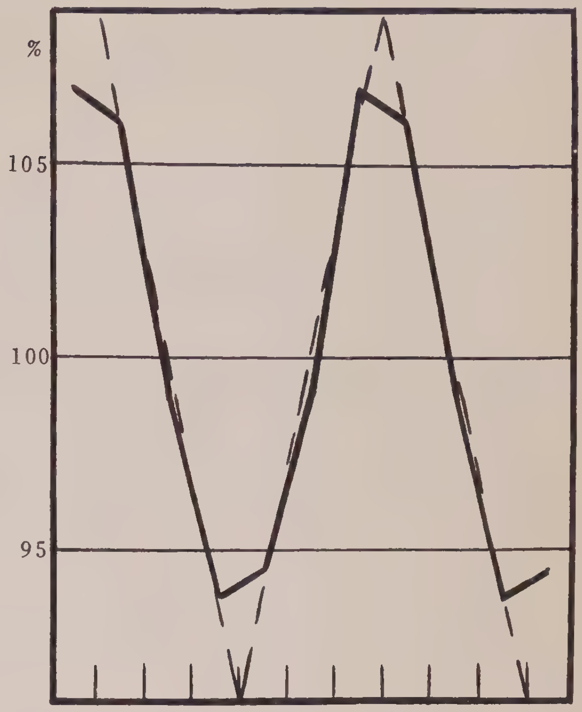


FIG. 12: 6-YEAR STEEL CYCLE

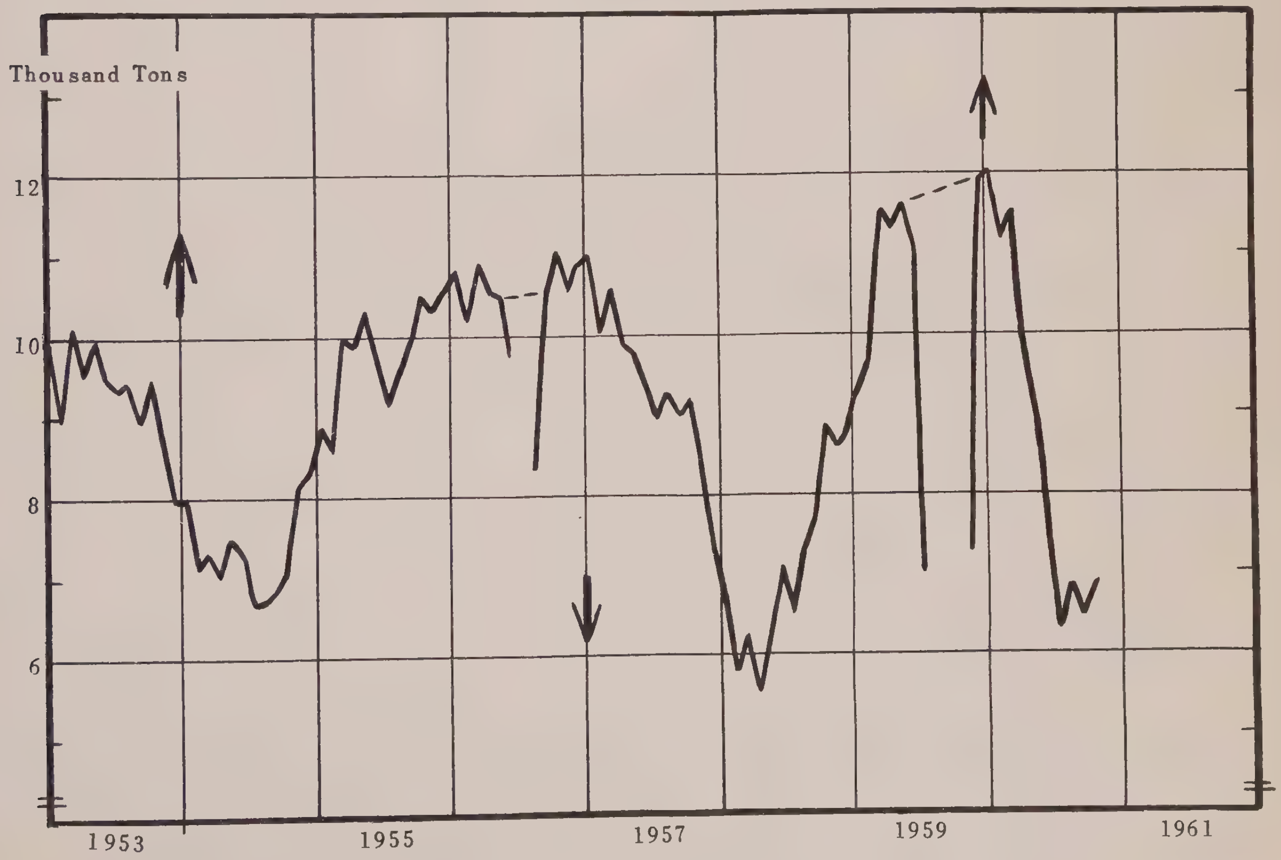


FIG. 13: PRODUCTION OF STEEL INGOTS AND STEEL CASTINGS

ALUMINUM PRODUCTION OUTLOOK GOOD

During 1961 the 6.4-year cycle in aluminum production will be going up. If this cycle continues to operate, aluminum production over the next year will be bolstered by it.

In the March 1958 issue of *Cycles* we first discussed this cycle. At that time we said, "Primary aluminum production in the United States from 1886 to date has evidenced a 6.4-year cycle. If this cycle continues it will, ideally, exert a downward pressure against growth until 1959.5, the next time of ideal low."

Aluminum production developed a low at the middle of 1958, about a year ahead of the ideal low. Since then production has been moving upward and has stayed above 160 million tons a month for almost two years.

If actual experience continues to follow the pattern of the 6.4-year cycle, 1961 may be a good year.

At the present time the 6.4-year cycle is moving up toward a high due in the fourth quarter of 1962.

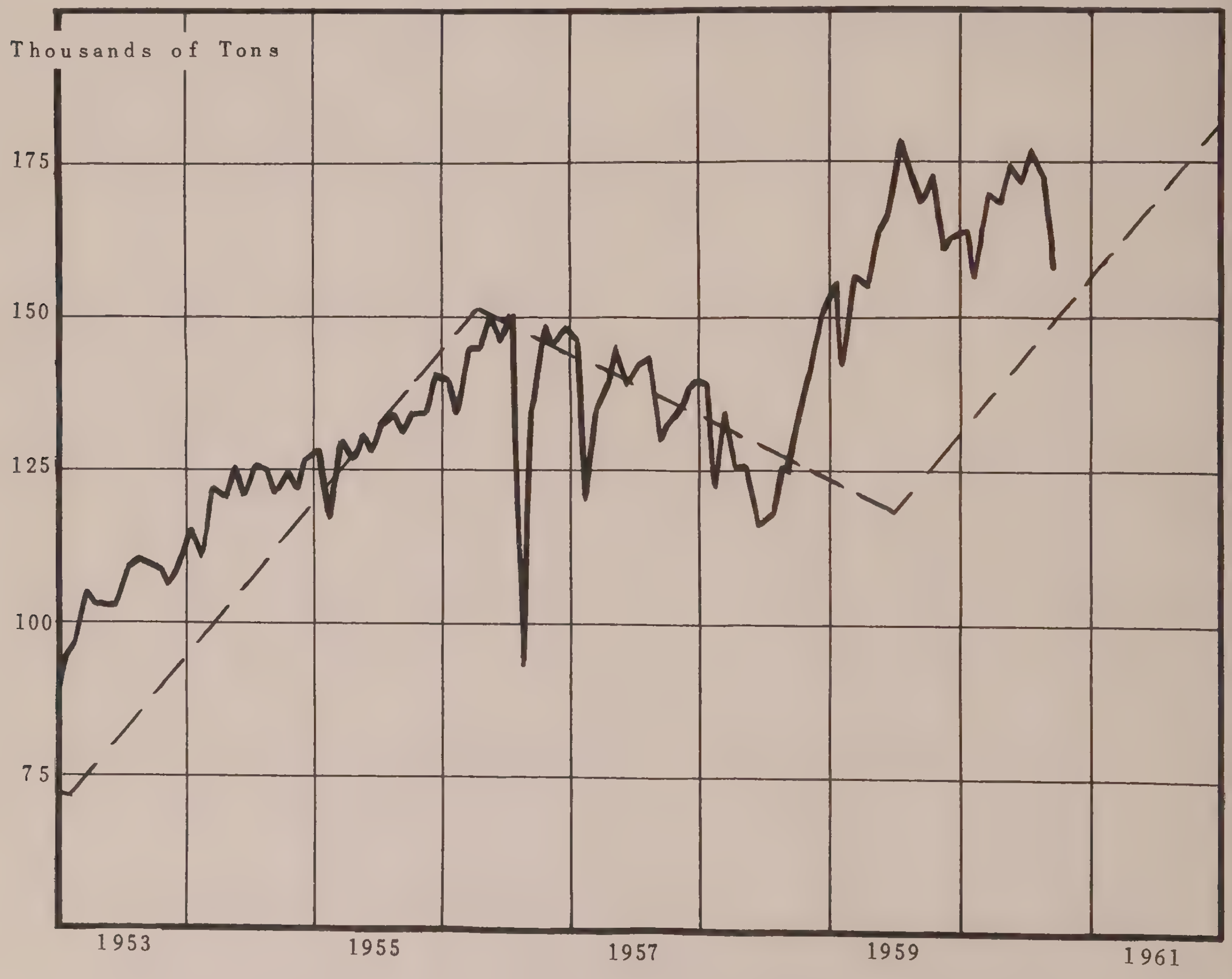


FIG. 14: DOMESTIC PRODUCTION OF PRIMARY ALUMINUM

COTTON CONSUMPTION MAY DECLINE

If the forces which have influenced the consumption of cotton in the past continue to operate in the future, cotton consumption may decline in 1961.

The 23.75-month cycle in cotton consumption has a peak at January 1961 after which it falls off toward a low due ideally at February 1962. This cycle is very reliable, and exerts a force of about 2% of trend per month. The 2% a month figure is based on average past experience. Of course an average includes cases which are higher than the average and cases which are lower than the average. But whether the downward force of the cycle will be greater than average, or less than average, the probabilities are high that it will be down.

In addition, the short underlying trend in this series is moving down at the present time.

These two forces combine to push the synthesis line toward low levels by the end of 1961. The synthesis, or combination line is the broken line on the chart. I should mention that it jumps up and down over the course of the year because the figures are four and five week months.

In addition to the 23.75-month cycle, and the short term underlying trend, the synthesis line includes a seasonal pattern. The very low value at July is due to the seasonal cycle.

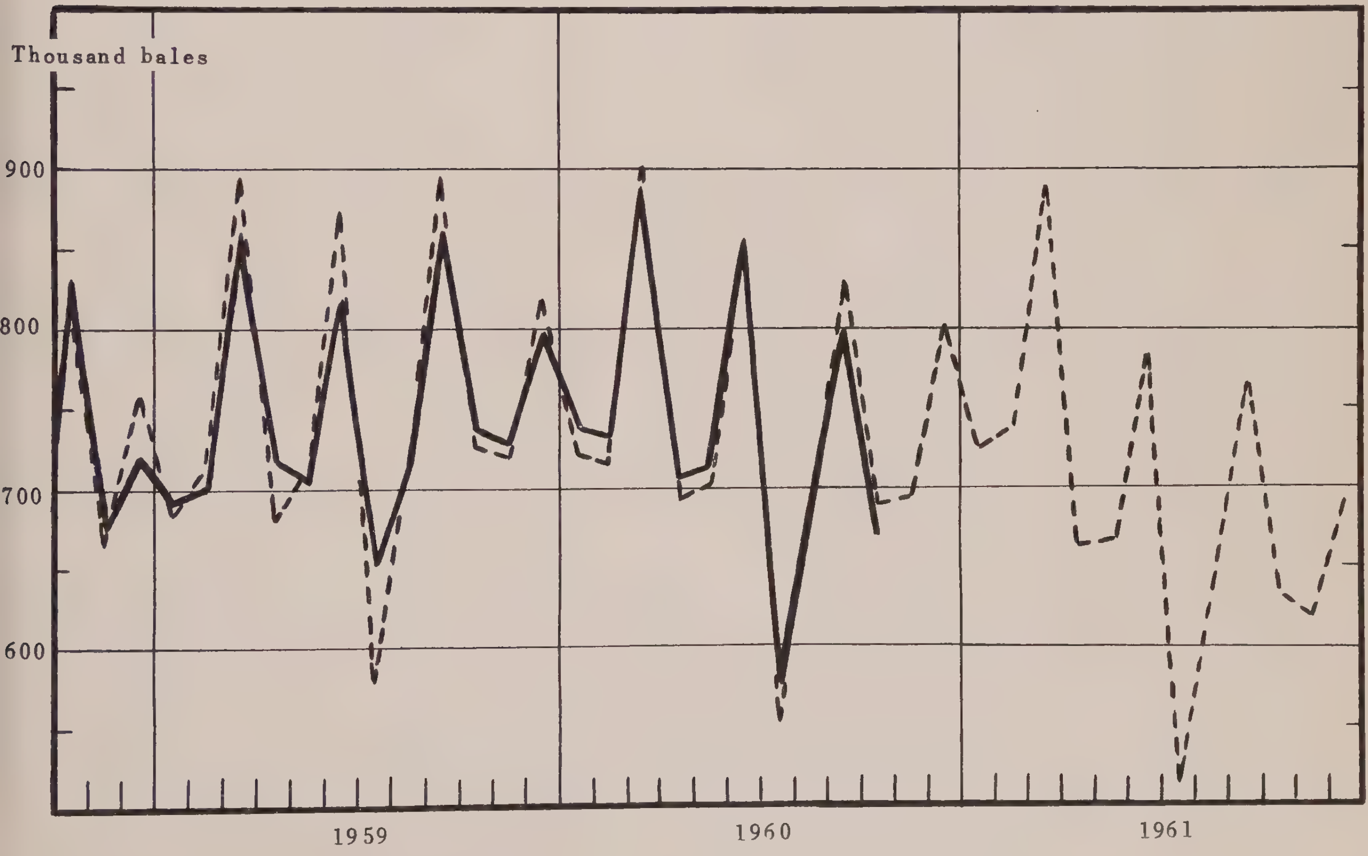


FIG. 15: COTTON CONSUMPTION

SHOE PRODUCTION APPEARS STEADY

Our analysis of the total production of shoes and slippers includes two cycles, a 12-month cycle and a 27-month cycle, plus a short-term underlying trend.

The 27-month cycle had a low at November 1960, and is now on the way up toward a peak due, on the average, at January 1962. This cycle goes up about 10% of trend from low to high. During 1961 it should be rising steadily.

The short term trend in these figures is also going up alightly. If the slight uptrend continues to prevail, and if the 27-month cycle continues to operage, production in 1961 should stay at levels as good as or a little better than those of 1960.

The dominant factor in this series is the seasonal cycle. Whatever level the total yearly production achieves in 1961, the monthly figures will vary around it according to the seasonal pattern which follows.

Month	% of Year Average	Month	% of Year Aver
Jan	106.4	Jul	89.5
Feb	104.0	Aug	111.7
Mar	114.8	Sep	100.2
Apr	100.5	Oct	102.3
May	95.7	Nov	89.9
Jun	98.2	Dec	90.4

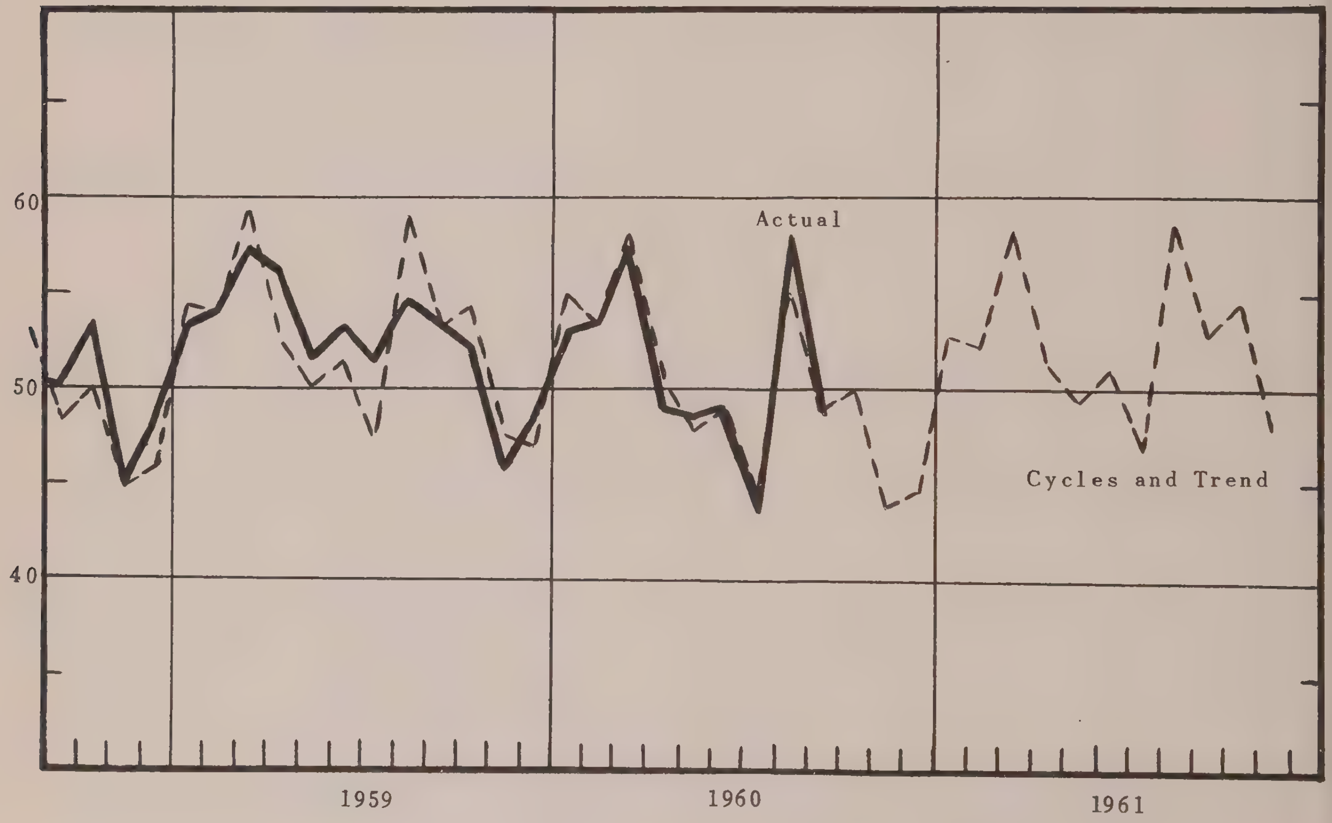


FIG. 16: PRODUCTION OF SHOES AND SLIPPERS

COMMODITY PRICES IN 1961

SOYBEANS

The price of soybeans (No. 1 yellow at Illinois shipping points) has been in a long slow decline from the high point of $3.80 a bushel at April 1954. It now appears that this decline may be over.

During all of 1960 the price stayed around the $2.05 to $2.10 level. In October the average monthly price was $2.04.

The chart below shows the average monthly price since 1953 as the solid line. The broken line on the chart is a short-term trend. If the trend continues through 1961 at the current level, there will be little change in soybean prices except for the seasonal variations.

Assuming that the trend does not change, and assuming that the seasonal pattern continues to operate, prices during 1961 could vary as follows:

Jan	$2.07	Jul	$2.16
Feb	2.04	Aug	2.11
Mar	2.09	Sep	1.91
Apr	2.17	Oct	1.89
May	2.18	Nov	1.99
Jun	2.17	Dec	2.04

Any change in the level of the trend would bring a corresponding change in the level of prices.

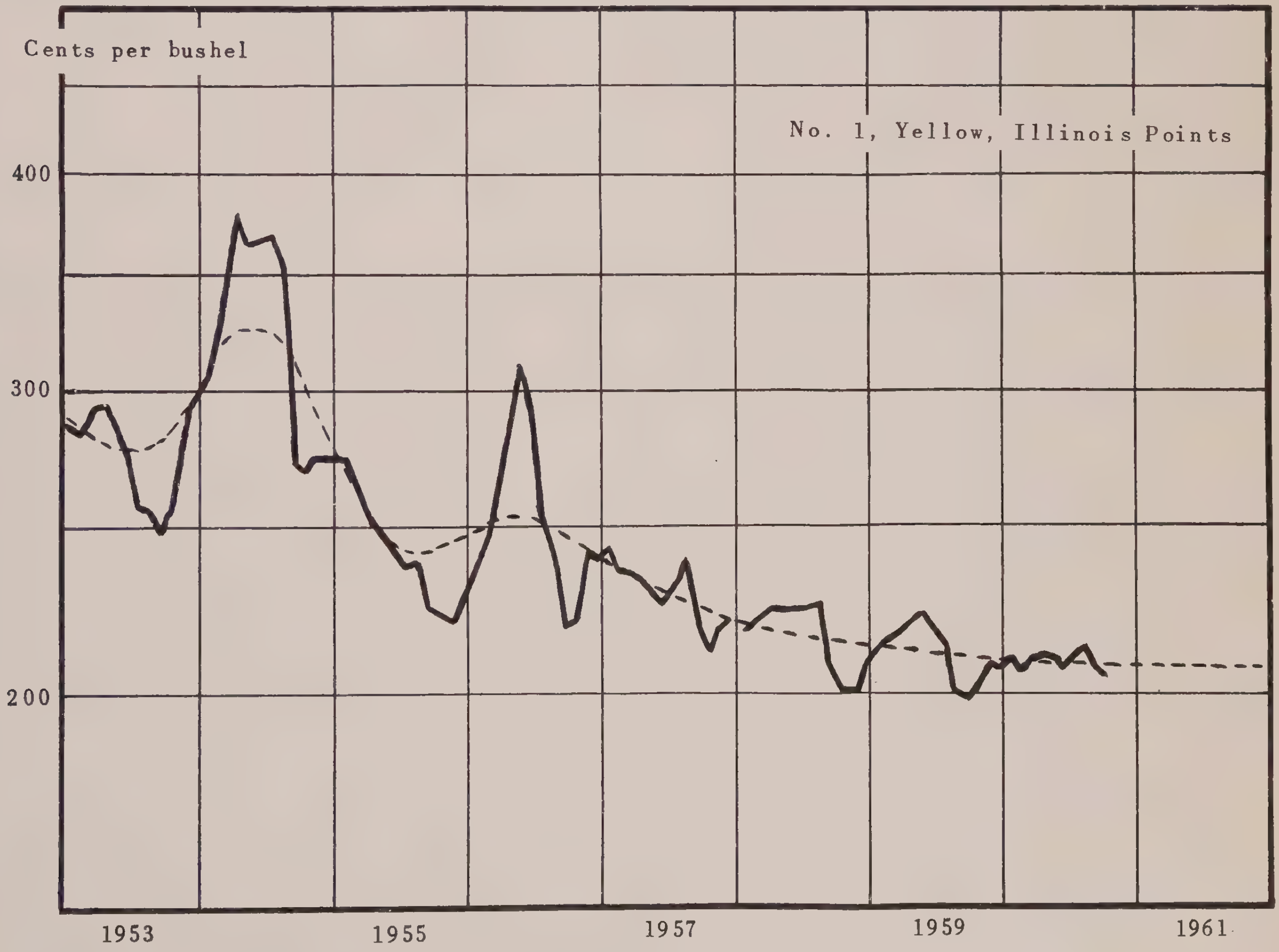


FIG. 17: THE PRICE OF SOYBEANS

WHEAT

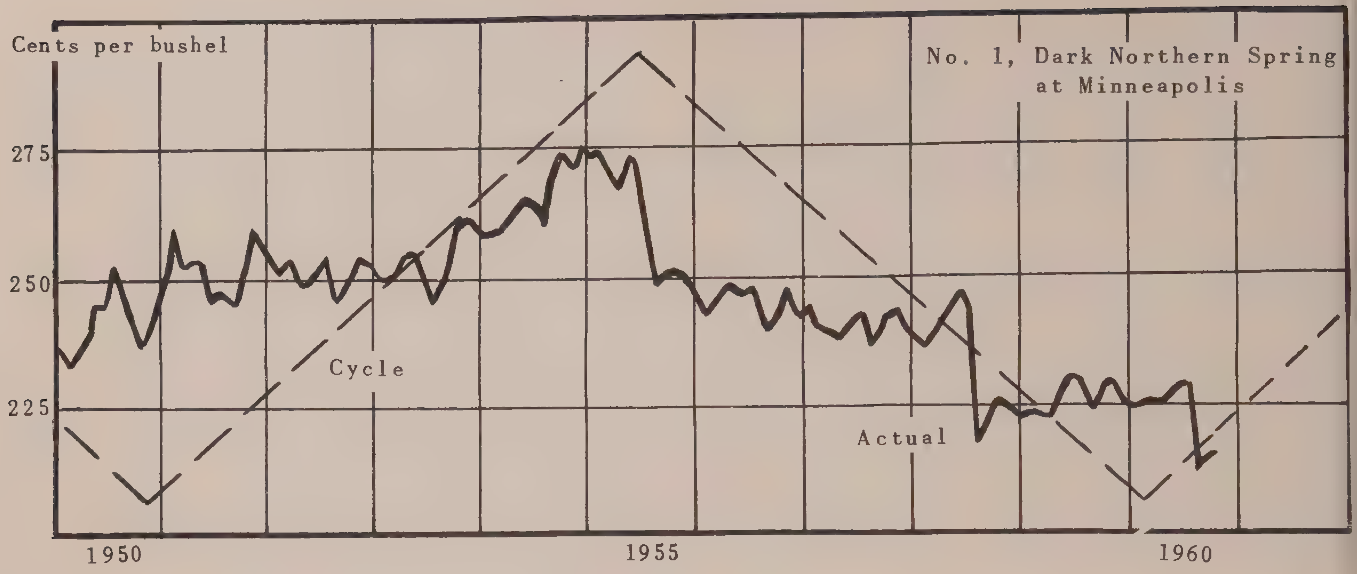


FIG. 18: THE PRICE OF WHEAT

COCOA

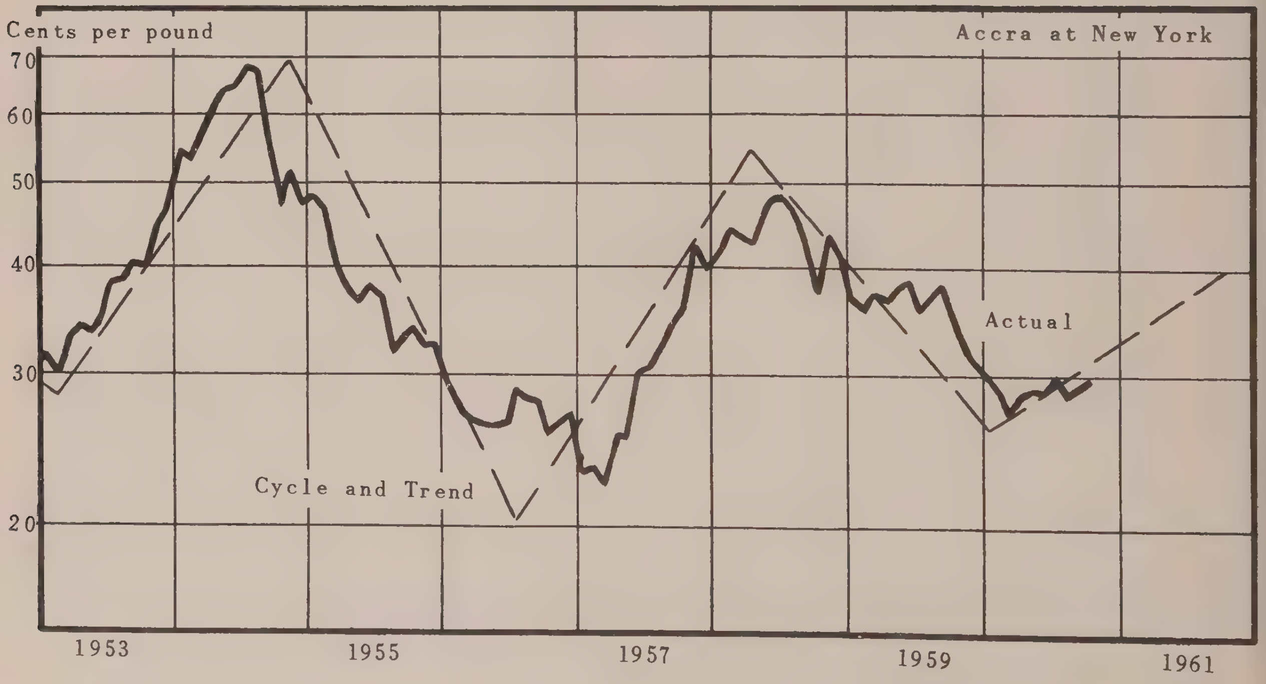


FIG. 19: THE PRICE OF COCOA BEANS

OATS

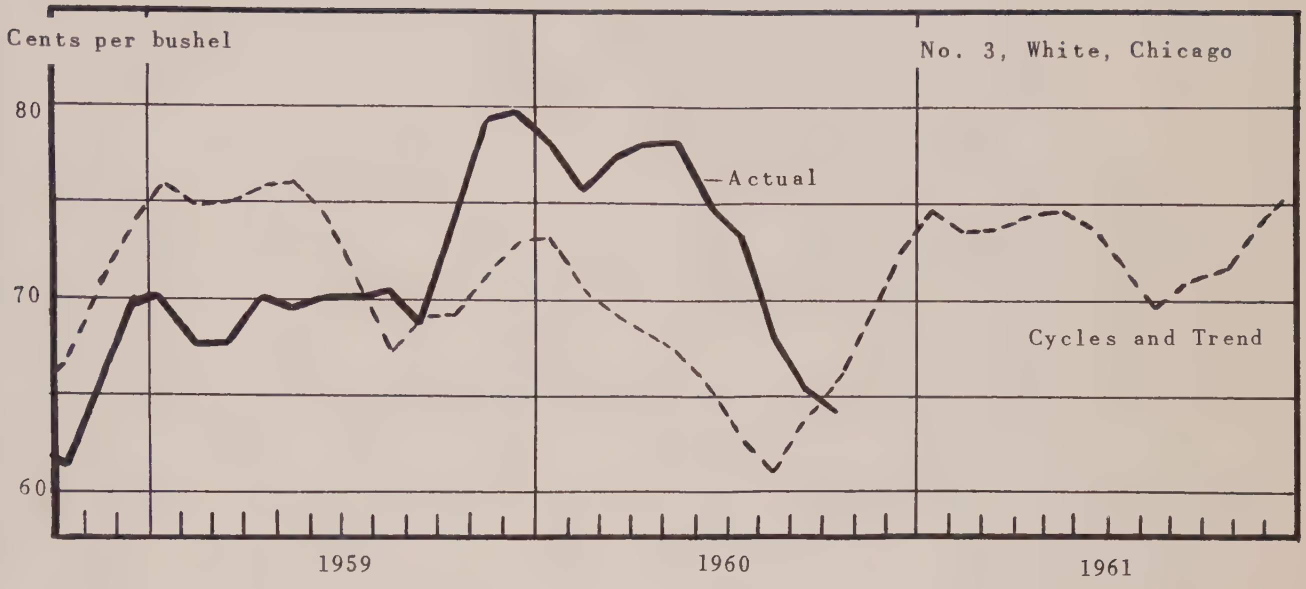


FIG. 20: THE PRICE OF OATS

CORN

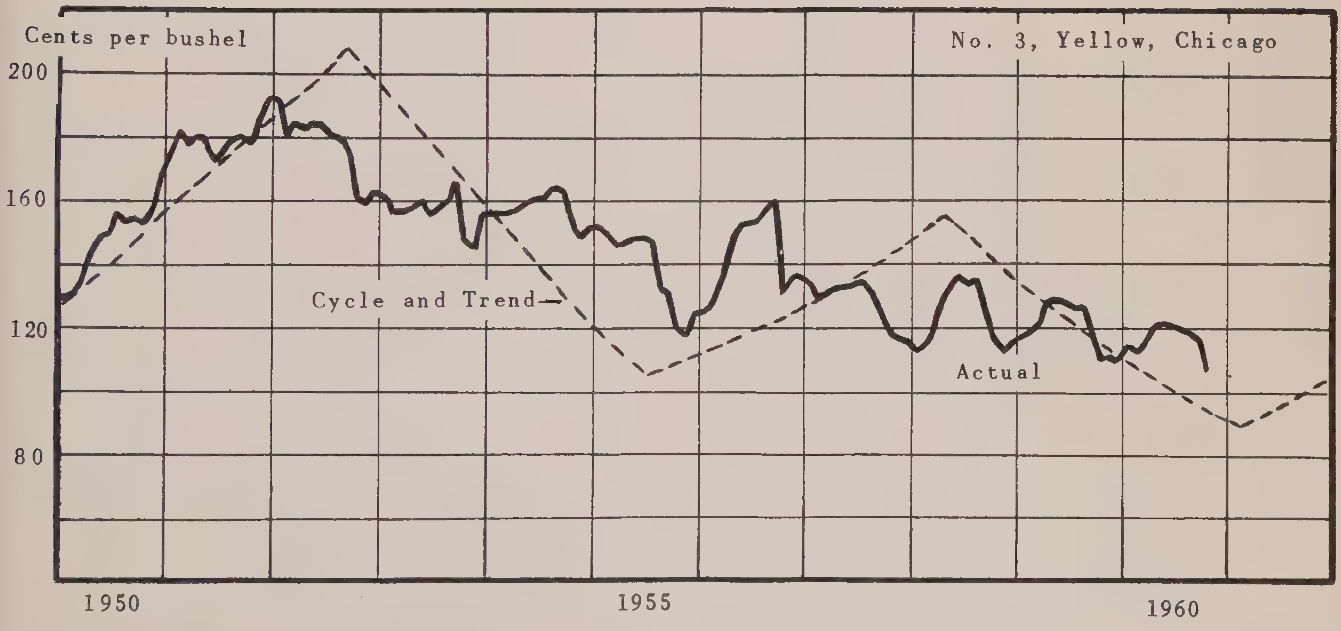


FIG. 21: THE PRICE OF CORN

Time and time again. ◆

BY GUSTAV GUMPERT

SNOW IN TOKYO

Not so long ago *Cycles* reported on the peculiar periodicity of rainfall on certain dates, pointing out that it seemed to have something to do with meteors.

Japanese scientists have been studying a record of snowfall in Japan that covers a 300-year period. Records on the event are good because there has long been a tradition in Japan that, when the snow covers the ground for the first time each year, seasons greetings are exchanged and citizens pay off old debts.

A scientist has reported in the *Australian Journal of Physics* that the record of snowfall at Tokyo for the three days, December 29, 30, and 31, shows a distinct tendency to recur. Over a 300-year period, he points out, this snowfall seems to be correlated with showers of meteors.

SHAKES AT GENEVA

Geneva, Switzerland is shaken by earthquakes, imperceptible except with instruments, on the average of once in three days.

This surprising fact was discovered by Dr. Andre Decae, a scientist, who works on an atom-smasher located near Geneva. The shakes were discovered when physicists noted modifications in the performance of the atom-smasher.

The wages originate, it is believed, in the floor of the Bay of Biscay. Unusually high tides occur in the bay at two-week intervals and are thought to impose enough additional weight on the submarine rock layers to cause the tremors.

The frequency of the waves changes, however, by the time they reach Geneva, thus accounting for the different frequency in the Swiss city.

THE MARKET PLACE

The cycle theory for anticipating market changes reported in this column last month has worked out with reasonable accuracy. As of this date (November 14), here are the indicators for the balance of November and December: November 18, fresh rally; December 6, decline; December 11, recovery; December 22, decline. Remember, it's just a theory!

FOREST FIRES AND SUNSPOTS

William W. Morris, a forester of the Wisconsin State Department of Agriculture, published a study in 1947 on the relationship between forest fires and sunspots that perhaps is deserving of greater attention.

His conclusion: "Nearly all of the great fires in the state occurred during periods of declining sunspot activity."

Among his other observations, Mr. Morris pointed out that, besides the 11-year cycle in sunspots, which is the common and most apparent one, there are undoubtedly longer trends when sunspot numbers are much above or much below normal.

He observed that such long cycles seem to be accompanied in Wisconsin by generally cool, wet periods when sunspot numbers are high, and by hot, dry periods when sunspot numbers are low.

INFRASOUNDS

During early November, a team of U.S. Government scientists disclosed that they have found a movement in the earth's air mass that occurs at intervals of about five to seven seconds.

The scientists believe that these changes are caused by sound waves so slow that they cannot be heard by the human ear. And they call these "infrasounds."

First reports on the research were given to the Acoustical Society of America by Dr. Richare K. Cook and Dr. J. M. Young, physicists of the National Bureau of Standards.

The general theory is that these infrasounds may be one of the causes of earthquakes. The big earthquake in the Yellowstone region of Montana on August 18, 1959, was registered on Bureau of Standards seismometers in Washington, D. C.

The ground rose a fraction of an inch every five or six seconds, then fell for five or six seconds, thus producing wave crests 11 seconds apart.

The government researchers have concluded that the air is full of these indrasounds. But they haven't hinted at what causes the sound waves.

HE GEISINGER INDICATOR

Things were very dull in October!

Industrial Production stood steady at 162, ot changing any from September.

The Geisinger Indicator moved down slightly rom 0.20 to 0.00, the zero line, at July arch 1961 when advanced).

The First Difference Indicator also moved own slightly from -1.00 in August to -1.33 n September.

The Modified Geisinger Indicator moved own from 0.37 to -0.17 in July (March 1961 en advanced).

As the dip in the Modified Geisinger Indiator from May 1959 to December 1959 (June 60—August 1960 when advanced) was largely a eflection of the steel strike, I have bridged this dip by means of a broken line in order to give a more realistic picture.

There were no really dramatic changes and no sharp moves either toward a repeat of the minus 2.00 danger signal, or the appearance of the plus 2.00 good times signal.

However, all the Indicators did move downward, however slightly. I cannot predict any great improvement in the course of business until we get that plus 2.00 good times signal.

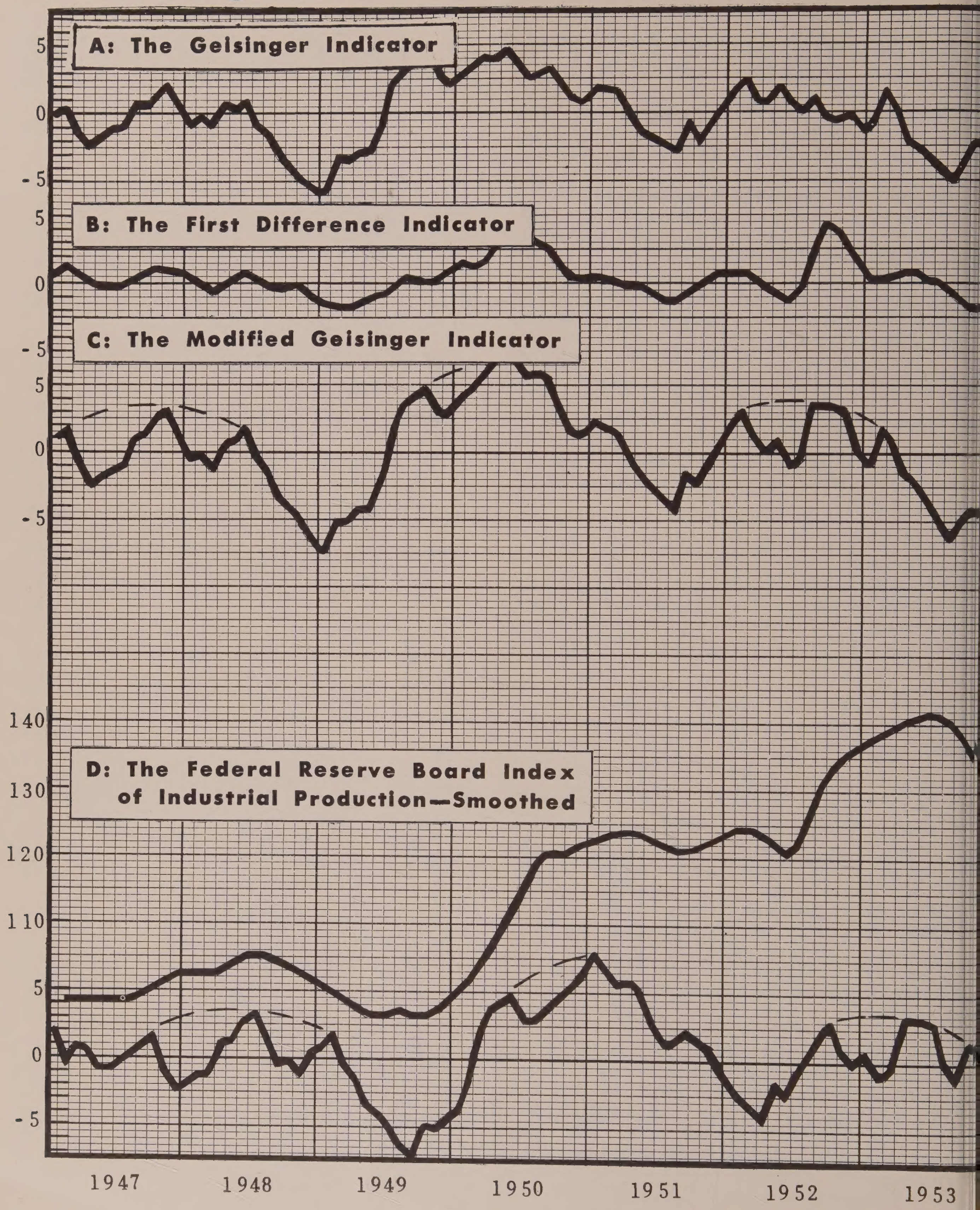
The Indicators do not hint as to how long or how deep any slump in production may be. Production has been down rather steadily from last May. So far the drop has not been serious, although local situations may be much worse than the national average.

November 23, 1960 E. R. Dewey

Month	F.R.B. Index	Geisinger Indicator	First Difference Indicator	Modified Geisinger Indicator	Timing Advanced 8 Months
Oct-1959	154	-3.20	-1.83	-5.03	1960-Jun
Nov	155	-1.00	1.00	0.00	Jul
Dec	165	-0.80	3.67	2.87	Aug
Jan	168	-2.80 D.S.	4.16	1.36	Sep
Feb	166	-1.60	2.00	0.40	Oct
Mar	166	-2.20 D.S.	-0.33	-2.53	Nov
Apr	165	-2.00	-0.33	-2.53	Dec
May	167	-0.20	0.16	-0.04	1961-Jan
Jun	166	0.20	0.17	0.37	Feb
Jul	166	0.00	-0.17	-0.17	Mar
Aug	165	*	-1.00	*	Apr
Sep	162	*	-1.33p	*	May
Oct	162p	*	*	*	Jun

p - preliminary; D.S. - danger signal; * - not yet available

The Geisinger Indicator Compared To Indust



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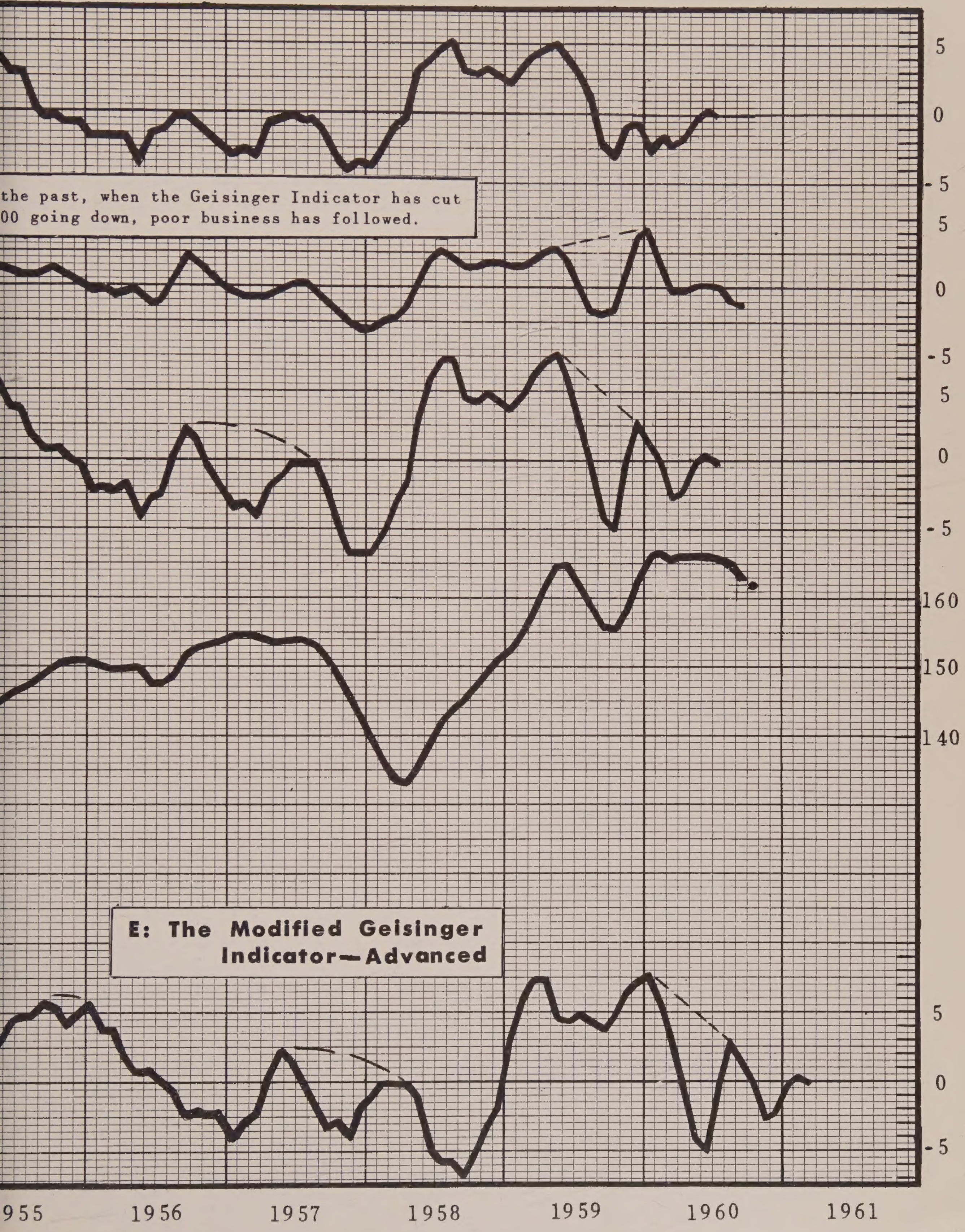

the past, when the Geisinger Indicator has cut
00 going down, poor business has followed.

E: The Modified Geisinger Indicator—Advanced

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